- Printing of complex numbers could misbehave when one of the parts was large (so scientific notation was used) and the other was so much smaller that it had no significant digits and should have been printed as zero (e.g. 1e80+3e44i).
- Using install.packages with type="mac.binary" and target path starting with failed with a cryptic message while unpacking.
- `getwd()` now works correctly when the working directory is unavailable (e.g. unreadable).
- The alternative hypothesis in `wilcox.test()` was labelled by an unexplained quantity `'mu'` which is now spelled out.

  The alternative hypothesis in `ks.test()` is clearer both in the documentation and in the result. (PR#5360)

Changes on CRAN

by Kurt Hornik

New contributed packages

AdaptFit Adaptive semiparametic regression. Fits semiparametric regression models with spatially adaptive penalized splines. By Tatyana Krivobokova.

CompetingRiskFrailty Competing risk model with frailties for right censored survival data. Offers fitting of smooth varying coefficients in a competing risks modeling of hazards as well as estimating of the frailties (or unobserved heterogeneities) for clustered observations. Nonparametric penalized spline (p-spline) fitting of smooth covariates effects is proposed. As a spline basis truncated polynomial functions are chosen. The frailties are also fitted (via the EM algorithm) in a flexible way using a penalized mixture of Gamma distributions. By Pavel Khomski.

DPpackage Semiparametric Bayesian analysis using Dirichlet process priors. Contains functions for posterior analysis for a number of semiparametric statistical models. Simulation is done in compiled Fortran. By Alejandro Jara Vallejos.

FLEDA Exploratory Data Analysis for **FLR**. Develops several procedures to explore fisheries data. By Ernesto Jardim and Manuela Azevedo.

Flury Data sets from Bernard Flury (1997), "A First Course in Multivariate Statistics", Springer NY. By Bernard Flury.

GAMBoost Routines for fitting generalized additive models by likelihood based, using penalized B-splines. By Harald Binder.

GeneCycle Identification of periodically expressed genes. Implements the approaches of Wichert et al. (2004) and Ahdesmaki et al. (2005) for detecting periodically expressed genes from gene expression time series data. By Miika Ahdesmaki, Konstantinos Fokianos, and Korbinian Strimmer.

GeneNet Modeling and inferring gene networks. A package for analyzing gene expression (time series) data with focus on the inference of gene networks. In particular, it implements the methods of Schaefer and Strimmer (2005a,b,c) and Opgen-Rhein and Strimmer (2006) for learning large-scale gene association networks. For plotting the gene networks, **GeneNet** uses the **graph** and **Rgraphviz** packages, available from http://www.bioconductor.org. By Rainer Opgen-Rhein, Juliane Schaefer, and Korbinian Strimmer.

HH Support software for the book "Statistical Analysis and Data Display" by Richard M. Heiberger and Burt Holland (Springer, ISBN 0-387-40270-5). This contemporary presentation of statistical methods features extensive use of graphical displays for exploring data and for displaying the analysis. The authors demonstrate how to analyze data—showing code, graphics, and accompanying computer listings—for all the methods they cover. They emphasize how to construct and interpret graphs, discuss principles of graphical design, and show how accompanying traditional tabular results are used to confirm the visual impressions derived directly from the graphs. Many of the graphical formats are novel and appear for the first time in print. By Richard M. Heiberger.

JGR JGR — Java Gui for R. By Markus Helbig.

JavaGD Java Graphics Device, routing all graphics commands to a Java program. The actual functionality of the JavaGD depends on the Java-side implementation. Simple AWT and Swing implementations are included. By Simon Urbanek.

MBA Multilevel B-spline Approximation for scattered data. By Andrew O. Finley and Sudipto Banerjee.

MBESS Methods for the Behavioral, Educational, and Social Sciences. Implements methods that are especially useful to researchers working within these sciences (both substantive researchers and methodologists). Many of the methods contained within **MBESS** are applicable to quantitative research in general. By Ken Kelley.

MChtest Monte Carlo hypothesis tests. Allows a couple of different sequential stopping boundaries (a truncated sequential probability ratio test boundary and a boundary proposed by Besag and Clifford, 1991). Gives valid p-values and confidence intervals on p-values. By M. P. Fay.

MFDA Model based Functional Data Analysis, for doing model based functional clustering. By Wenxuan Zhong and Ping Ma.

MKLE Maximum Kernel Likelihood Estimation. By Thomas Jaki.

MasterBayes Maximum likelihood and Markov Chain Monte Carlo methods for pedigree reconstruction, analysis and simulation. The primary aim is to use MCMC techniques to integrate over uncertainty in pedigree configurations estimated from molecular markers and phenotypic data. Emphasis is put on the marginal distribution of parameters that relate the phenotypic data to the pedigree. All simulation is done in compiled C++ for efficiency. By Jarrod Hadfield.

PBSmodelling Provides software to facilitate the design, testing, and operation of computer models. It focuses particularly on tools that make it easy to construct and edit a customized graphical user interface (GUI). Although it depends heavily on the R interface to the Tcl/Tk package, a user does not need to know Tcl/Tk. The package contains examples that illustrate models built with other R packages, including PBS Mapping, **odesolve**, and **BRugs**. It also serves as a convenient prototype for building new R packages, along with instructions and batch files to facilitate that process. By Jon T. Schnute, Alex Couture-Beil, and Rowan Haigh.

PearsonICA Independent component analysis using score functions from the Pearson system. The Pearson-ICA algorithm is a mutual information-based method for blind separation of statistically independent source signals. It has been shown that the minimization of mutual information leads to iterative use of score functions, i.e., derivatives of log densities. The Pearson system allows adaptive modeling of score functions. The flexibility of the Pearson system makes it possible to model a wide range of source distributions including asymmetric distributions. The algorithm is designed especially for problems with asymmetric sources but it works for symmetric sources as well. By Juha Karvanen.

ProbeR Reliability for gene expression from Affymetrix chips. Most statistical methods for finding interesting genes are focusing on the summary value with large fold change or large variations. Very few methods consider the probe level data. This package is to calculate the reliability of the gene expression data from Affymetrix chips using the probe-level data. By Eun-Kyung Lee.

QCAGUI A graphical user interface (GUI) for the **QCA** package, derived from R Commander. Because QCA has little to do with statistics, the menus from **Rcmdr** were stripped down to the very basics. In crisp sets QCA data is binary therefore it is fairly decent to treat it as categorical (1: presence; 0: absence). In order to ease the primary analysis (e.g., tables of frequencies) and the creation of basic graphs, this package activates some menus that are not available in **Rcmdr** but for factors. Users should be aware, however, that **QCAGUI** is *not* a package for statistics; **Rcmdr** is better for this purpose. This package is 99% based on the **Rcmdr** package written by John Fox. Only two additional menus were adapted by Adrian Dusa.

R.rsp R Server Pages. An R Server Page (RSP) is a document that contains both text in a format of choice (HTML, TEX, ...) as well as R source code within special tags. An RSP file can be translated into a so called R servlet, which is an R script that outputs the final document when sourced. This way documents in any format can be generated dynamically using R, e.g., automatic reports of statistical analysis. Utilizing an internal cross-platform web server, this package provides dynamic help pages in HTML. If other packages provide RSP help pages, these are automatically linked to in the RSP main menu. By Henrik Bengtsson.

RGtk2 R bindings for the Gimp Tool Kit (Gtk) 2.0. By Duncan Temple Lang and Michael Lawrence.

RJaCGH Reversible Jump MCMC for the analysis of CGH arrays: Bayesian analysis of CGH microarrays fitting Hidden Markov Chain models. The selection of the number of states is made via their posterior probability computed

by Reversible Jump Markov Chain Monte Carlo Methods. By Oscar Rueda and Ramon Diaz-Uriarte.

RTisean R interface to TISEAN algorithms. Algorithms for time series analysis from nonlinear dynamical systems theory originally made available by Rainer Hegger, Holger Kantz and Thomas Schreiber at http://www.mpipks-dresden.mpg.de/~tisean/. A related R package (**tseriesChaos** by Antonio, Fabio Di Narzo) contains rewritten versions of a few of the TISEAN algorithms. The intention of the present package is to use the TISEAN routines from within R with no need of manual importing/exporting. This package only contains R interface code, and requires that you have the TISEAN algorithms available on your computer. R interface code by Antonio Fabio Di Narzo, R documentation and examples by Gianluca Gazzola.

SNPassoc SNPs-based whole genome association studies. This package carries out most common analyses when performing whole genome association studies. These analyses include descriptive statistics and exploratory analysis of missing values, calculation of Hardy-Weinberg equilibrium, analysis of association based on generalized linear models (either for quantitative or binary traits), and analysis of multiple SNPs (haplotype and epistasis analysis). By Juan R González, Lluís Armengol, Elisabet Guinó, Xavier Solé, and Víctor Moreno.

SQLiteDF Stores data frames and matrices in SQLite tables. By Miguel A. R. Manese.

TSP Traveling Salesperson Problem (TSP). Basic infrastructure and some algorithms for the traveling salesperson problem (TSP). The package provides some simple algorithms and an interface to Concorde, the currently fastest TSP solver. The solver itself is not included in the package and has to be obtained separately. Note that the package currently only implements support for the symmetric TSP. By Michael Hahsler and Kurt Hornik.

TWIX Trees WIth eXtra splits. By Sergej Potapov.

TwoWaySurvival Additive two-way hazards modeling of right censored survival data. Offers fitting of smooth varying coefficients in an additive two-way hazard model. Nonparametric penalized spline (p-spline) fitting is proposed. As a spline basis truncated polynomial functions are chosen. By Pavel Khomski.

ada Performs discrete, real, and gentle boost under both exponential and logistic loss on a given data set. Provides a straightforward, well-documented, and broad boosting routine for classification, ideally suited for small to moderate-sized data sets. By Mark Culp, Kjell Johnson, and George Michailidis.

adabag Implements Freund and Schapire's Adaboost.M1 algorithm and Breiman's Bagging algorithm using classification trees as individual classifiers. Once these classifiers have been trained, they can be used to predict on new data. Also, cross validation predictions can be done. By Esteban Alfaro Cortés, Matías Gámez Martínez and Noelia García Rubio.

ade4TkGUI A Tcl/Tk GUI for some basic functions in the **ade4** package. By Jean Thioulouse and Stephane Dray.

agsemisc Miscellaneous plotting and utility functions. High-featured panel functions for `bwplot` and `xyplot`, various plot management helpers, some other utility functions. By Lutz Prechelt.

allelic A fast, unbiased and exact allelic exact test. This is the implementation in R and C of a new association test described in "A fast, unbiased and exact allelic exact test for case-control association studies" (submitted). It appears that in most cases the classical chi-square test used for testing for allelic association on genotype data is biased. Our test is unbiased, exact but fast through careful optimization. By Karl Forner.

aspace A collection of functions for computing centrographic statistics (e.g., standard distance, standard deviation ellipse), and minimum convex polygons (MCPs) for observations taken at point locations. A tool is also provided for converting geometric objects associated with the centrographic statistics, and MCPs into ESRI shape files. By Tarmo K. Remmel and Ron N. Buliung.

backtest Exploring portfolio-based hypotheses about financial instruments (stocks, bonds, swaps, options, et cetera). By Kyle Campbell, Jeff Enos, Daniel Gerlanc, and David Kane.

biglm Bounded memory linear and generalized linear models: regression for data too large to fit in memory. By Thomas Lumley.

binom Binomial confidence intervals for several parametrizations. By Sundar Dorai-Raj.

cacheSweave Tools for caching Sweave computations and storing them in filehash databases. By Roger D. Peng.

cairoDevice Loadable Cairo/GTK device driver for R which, in addition to standalone functionality, can be used to create devices as embedded components in a GUI using a Gtk drawing area widget, e.g., using **RGtk**. By Michael Lawrence and Lyndon Drake.

chemCal Calibration functions for analytical chemistry. Provides simple functions for plotting linear calibration functions and estimating standard errors for measurements according to the Handbook of Chemometrics and Qualimetrics: Part A by Massart et al. There are also functions estimating the limit of detection (LOQ) and limit of quantification (LOD). The functions work on model objects from (optionally weighted) linear regression (`lm`) or robust linear regression (`rlm` from the **MASS** package). By Johannes Ranke.

compOverlapCorr Comparing overlapping correlation coefficients. Contains a function to test the difference between two overlapping (in the sense of having a variable in common) correlation coefficients, using a Z-test as described by Meng, Rosenthal, and Rubin (1992). By Ka-Loh Li and Xiaoping Zhu.

connectedness Functions to find, plot and subset disconnected sets in a two-way classification without interaction. By Gregor Gorjanc (colors were taken from **RColorBrewer**).

cts Continuous time autoregressive models and the Kalman filter. Fortran original by G. Tunnicliffe-Wilson and Zhu Wang, R port by Zhu Wang.

delt Estimation of multivariate densities with adaptive histograms (greedy histograms and CART histograms), stagewise minimization, and bootstrap aggregation. By Jussi KlemelÃd'.

distributions Probability distributions (binomial, poisson, geometric, normal, chi-squared, Fisher, Student) based on TI-83 Plus graphic scientific calculator. By Fabio Frascati.

dlm Maximum likelihood and Bayesian analysis of dynamic linear models. By Giovanni Petris.

eRm Estimating extended Rasch models. Allows the estimation of Rasch models and extensions such as: Linear logistic test model (LLTM), rating scale model (RSM), linear rating scale model (LRSM), partial credit model (PCM), and linear partial credit model (LPCM). By Patrick Mair and Reinhold Hatzinger.

eiPack Ecological inference and higher-dimension data management. Provides methods for analyzing $R \times C$ ecological contingency tables using the extreme case analysis, ecological regression, and Multinomial-Dirichlet ecological inference models. Also provides tools for manipulating higher-dimensional data objects. By Olivia Lau, Ryan T. Moore, and Michael Kellermann.

exactmaxsel Computes the exact distribution of some maximally selected statistics in the following setting: the "response" variable is binary, the splitting variable may be nominal, ordinal or continuous. Currently, the package implements the chi-squared statistic and the Gini index. By Anne-Laure Boulesteix.

fdrtool Contains utility functions for controlling and estimating (local) false discovery rates, including some diagnostic plots to support the choice of the most suitable fdr method. By Korbinian Strimmer.

feature Feature significance for multivariate kernel density estimation. By Tarn Duong and Matt Wand.

ffmanova Fifty-fifty MANOVA. Performs general linear modeling with multiple responses (MANCOVA). An overall p-value for each model term is calculated by the 50-50 MANOVA method, which handles collinear responses. Rotation testing is used to compute adjusted single response p-values according to familywise error rates and false discovery rates. By ÃŸyvind Langsrud and BjÃ¿rn-Helge Mevik.

fingerprint Functions to manipulate binary fingerprints of arbitrary length. A fingerprint is represented as a vector of integers, such that each element represents the position in the fingerprint that is set to 1. Basic operations such as logical AND, OR, NOT and XOR are supplied. Distance metrics are also available. Fingerprints can be converted to Euclidean vectors (i.e., points on the unit hypersphere) and can also be folded using XOR. Then, arbitrary fingerprint formats can be handled via line handlers. By Rajarshi Guha.

fmri Analysis of fMRI experiments as described in Tabelow, Polzehl, Spokoiny, WIAS-preprint No. 1079, 2005. By Karsten Tabelow and Joerg Polzehl.

forecasting Functions and data sets for forecasting. By Rob J Hyndman.

gRcox Estimation, model selection and other aspects of statistical inference in Graphical Gaussian models with edge and vertex symmetries (colored Graphical Gaussian models). By SÃ¿ren HÃ¿jsgaard and Steffen L. Lauritzen.

gWidgets Provides a toolkit-independent API for building interactive GUIs. By Philippe Grosjean, Michael Lawrence, Simon Urbanek, and John Verzani.

gWidgetsRGtk2 Toolkit implementation of **gWidgets** for **RGtk2**. By Michael Lawrence and John Verzani.

gamlss.nl A GAMLSS add on package for fitting non linear parametric models. The main function `nlgamlss()` can fit any parametric (up to four parameter) GAMLSS distribution. By Mikis Stasinopoulos and Bob Rigby, with contributions from Philippe Lambert.

gamlss.tr A GAMLSS add on package for generating and fitting truncated (gamlss.family) distributions. The main function `gen.trun()` generates truncated version of an existing GAMLSS family distribution. By Mikis Stasinopoulos and Bob Rigby.

gbev Gradient boosted regression trees with errors-in-variables. Performs non-parametric regression when covariates are measured with error. The models are estimated using gradient boosted regression trees. Regression is performed using squared error loss, while binary response regression can be performed using negative log-likelihood loss. By Joe Sexton.

grImport Functions for converting, importing, and drawing PostScript pictures in R plots. By Paul Murrell and Richard Walton.

grplasso Fits user specified models with group lasso penalty. By Lukas Meier.

gvlma Global validation of linear models assumptions, providing methods from the paper "Global Validation of Linear Model Assumptions" by E. A. Pena and E. H. Slate (JASA, 101(473):341-354, 2006). By Edsel A. Pena and Elizabeth H. Slate.

hot Computation on micro-arrays. By Gilles Guillot.

ifa Independent factor analysis. By Cinzia Viroli.

iplots Interactive plots for R. By Simon Urbanek and Tobias Wichtrey.

laser Likelihood Analysis of speciation/extinction rates from phylogenies. Implements maximum likelihood methods based on the birth-death process to test whether diversification rates have changed over time. Permits batch processing of phylogenies to generate null distributions of test statistics and posterior distributions of parameter estimates. Additional functions for manipulating branching times from molecular phylogenies and for simulating branching times under constant-rate models of diversification are provided. By Dan Rabosky.

lawstat Statistical tests widely utilized in biostatistics, public policy and law. Along with the well known tests for equality of means and variances, randomness, measures of relative variability, etc., this package contains new robust tests of symmetry, omnibus and directional tests of normality, and their graphical counterparts such as Robust QQ plot; a robust trend test for variances, etc. All implemented tests and methods are illustrated by simulations and real-life examples from legal statistics, economics and biostatistics. By Wallace Hui, Yulia R. Gel, Joseph L. Gastwirth, and Weiwen Miao.

ldbounds Lan-DeMets method for group sequential boundaries. By Charlie Casper and Oscar A. Perez.

lhs Provides a number of methods for creating and augmenting Latin Hypercube Samples. By Rob Carnell.

logcondens Estimate a log-concave probability density from i.i.d. observations. Given independent and identically distributed observations $X(1), \ldots, X(n)$, this package allows to compute a concave, piecewise linear function ϕ on $[X(1), X(n)]$ with knots only in $\{X(1), X(2), \ldots, X(n)\}$ such that $L(\phi) = \sum_{i=1}^{n} W(i) * \phi(X(i)) - \int_{X(1)}^{X(n)} \exp(\phi(x))\, dx$ is maximal, for some weights $W(1), \ldots, W(n)$ such that $\sum_{i=1}^{n} W(i) = 1$. According to the results in Duembgen and Rufibach (2006), this function ϕ maximizes the ordinary log-likelihood $\sum_{i=1}^{n} W(i) * \phi(X(i))$ under the constraint that ϕ is concave. The corresponding function $\exp(\phi)$ is a log-concave probability density. Two algorithms are offered: An active set algorithm and one based on the pool-adjacent-violators algorithm. By Kaspar Rufibach and Lutz Duembgen.

lvplot Implements letter value boxplots which extend the standard boxplot to deal with larger data. By Heike Hofmann.

mboost Model-based boosting. Functional gradient descent algorithms (boosting) for optimizing general loss functions utilizing componentwise least squares, either of parametric linear form or smoothing splines, or regression trees as base learners for fitting generalized linear, additive and interaction models to potentially high-dimensional data. By Torsten Hothorn and Peter Bühlmann.

mclust02 Model-based cluster analysis: the 2002 version of MCLUST. By C. Fraley and A. E. Raftery; R port by Ron Wehrens.

mprobit Multivariate probit model for binary/ordinal response. Multivariate normal rectangle probabilities (positive exchangeable, general, approximations); MLE of regression and correlation parameters in the multivariate binary/ordinal probit models: exchangeable, AR(1), and unstructured correlation matrix. By Harry Joe, Laing Wei Chou, and Hongbin Zhang.

mratios Inferences for ratios of coefficients in the general linear model. In particular, tests and confidence interval estimations for ratios of treatment means in the normal one-way layout and confidence interval estimations like in (multiple) slope ratio and parallel line assays can be carried out. Moreover, it is possible to calculate the sample sizes required in comparisons with a control based on relative margins. For the simple two-sample problem, functions for a t-test for ratio-formatted hypotheses and the corresponding Fieller confidence interval are provided assuming homogeneous or heterogeneous group variances. By Gemechis Dilba and Frank Schaarschmidt.

multcompView Visualizations of paired comparisons. Convert a logical vector or a vector of p-values or a correlation, difference, or distance matrix into a display identifying the pairs for which the differences were not significantly different. Designed for use in conjunction with the output of functions like `TukeyHSD`, `dist`, `simint`, `simtest`, `csimint`, `csimtest` (from **multcomp**), `friedmanmc` and `kruskalmc` (from **pgirmess**). By Spencer Graves and Hans-Peter Piepho, with help from Sundar Dorai-Raj.

multic Calculate the polygenic and major gene models for quantitative trait linkage analysis using variance components approach. By Eric Lunde, Mariza de Andrade and Beth Atkinson.

multilevel Functions for the analysis of multilevel data by organizational and social psychologists. Includes a number of estimates of within-group agreement, and a series of routines using random group resampling (RGR) to identify the group-level properties of data. Finally, the package contains some basic simple routines for estimating reliability. By Paul Bliese.

mvtnormpcs Multivariate normal and T Distribution functions of Dunnett (1989). Computes multivariate student and multivariate normal integrals, given a correlation matrix structure defined by a vector `bpd`, such that $\rho(i,j) = bpd(i) * bpd(j)$ (product correlation structure). By Duane Currie and Jianan Peng, using code from Dunnett (Applied Statistics, 1989).

nFactors Non graphical solution to the Cattell Scree test, based on using acceleration factors or optimal coordinates (with or without Parallel Analysis) as numerical indices. By Gilles Raiche.

odfWeave Sweave processing of Open Document Format (ODF) files. By Max Kuhn.

paleoTS Modeling evolution in paleontological time-series. Facilitates analysis of paleontological sequences of trait values from an evolving lineage. Functions are provided to fit, using maximum likelihood, evolutionary models including random walk (biased and unbiased forms) and stasis models. By Gene Hunt.

partitions Additive partitions of integers. Enumerates the partitions, unequal partitions, and restricted partitions of an integer; the three corresponding partition functions are also given. By Robin K. S. Hankin.

pcalg Standard and robust estimation of the skeleton (ugraph) of a Directed Acyclic Graph (DAG) via the PC algorithm. By Markus Kalisch and Marin Maechler.

plm A set of estimators and tests for panel data. By Yves Croissant.

pmg Poor Man's GUI: simple GUI for R using **gWidgets**. By John Verzani.

poLCA Polytomous variable Latent Class Analysis: latent class analysis and latent class regression models for polytomous outcome variables. Also known as latent structure analysis. By Drew Linzer and Jeffrey Lewis.

powell Optimizes a function using Powell's UObyQA algorithm. By Sundar Dorai-Raj, original Fortran from Mike Powell.

prettyR Functions for conventionally formatted descriptive stats. By Jim Lemon and Phillipe Grosjean.

proptest Tests of the proportional hazards assumption in the Cox model: data-driven Neyman type smooth tests and score process based tests for identifying nonproportional covariates. By David Kraus.

psychometric Applied psychometric theory. Contains functions useful for correlation theory, meta-analysis (validity-generalization), reliability, item analysis, inter-rater reliability, and classical utility. By Thomas D. Fletcher.

qp q-order partial correlation graph search (q-partial or, for short, qp) algorithm, a robust procedure for structure learning of undirected Gaussian graphical Markov models from "small n, large p" data, that is, multivariate normal data coming from a number of random variables p larger than the number of multidimensional data points n as in the case of, e.g., microarray data. By Robert Castelo and Alberto Roverato.

qtlbim QTL Bayesian Interval Mapping: Functions for model selection for genetic architecture. By Brian S. Yandell and Nengjun Yi, with contributions from Tapan Mehta, Samprit Banerjee and Daniel Shriner (UA-Birmingham), W. Whipple Neely (UW-Madison) and Hao Wu and Randy von Smith (Jackson Laboratory).

random An interface to the true random number service provided by the random.org website created by Mads Haahr. The random.org web service samples atmospheric noise via radio tuned to an unused broadcasting frequency together with a skew correction algorithm due to John von Neumann. More background is available in the included vignette based on an essay by Mads Haahr. In its current form, the package offers functions to retrieve random integer number (with duplicates), randomized sequences (without duplicates) and raw random bytes. By Dirk Eddelbuettel.

randomSurvivalForest Ensemble survival analysis based on a random forest of trees using random inputs. By Hemant Ishwaran and Udaya B. Kogalur.

rattle A graphical user interface for data mining in R using GTK. Provides a Gnome (**RGtk2**) based interface to R functionality for data mining. The aim is to provide a simple and intuitive interface that allows a user to quickly load data from a CSV file, explore the data, build some models, and evaluate those models, knowing little about R. All R commands are logged and available for the user, as a tool to then begin interacting directly with R itself, if so desired. By Graham Williams.

reweight Adjustment of survey respondent weights. Adjusts the weights of survey respondents so that the marginal distributions of certain variables fit more closely to those from a more precise source (e.g., Census Bureau's data). By Feiming Chen.

rhosp Side effect risks in hospital: simulation and estimation. Evaluating risk (that a patient arises a side effect) during hospitalization is the main purpose of this package. Several methods (parametric, non parametric and De Vielder estimation) to estimate the risk constant (R) are implemented in this package. There are also functions to simulate the different models of this issue in order to quantify the previous estimators. By Christophe Dutang and Julie BarthÃl's.

robust A package of robust methods from Insightful. By Jeff Wang, Ruben Zamar, Alfio Marazzi, Victor Yohai, Matias Salibian-Barrera, Ricardo Maronna, Eric Zivot, David Rocke, Doug Martin, and Kjell Konis.

rpanel Provides a set of functions to build simple GUI controls for R functions, using the **tcltk** package. Uses could include changing a parameter on a graph by animating it with a slider or a "doublebutton", up to more sophisticated control panels. By Bowman, Bowman and Crawford.

rpubchem Interface to the PubChem Collection. Access PubChem data (compounds, substance, assays). Structural information is provided in the form of SMILES strings. This package only provides access to a subset of the precalculated data stored by PubChem. Bio-assay data can be accessed to obtain descriptions as well as the actual data. It is also possible to search for assay IDs by keyword. Currently the main limitation is that only 1000 molecules can be downloaded at a time from the PubChem servers. By Rajarshi Guha.

scaleboot Approximately unbiased p-values via multiscale bootstrap. By Hidetoshi Shimodaira.

sensitivity Sensitivity Analysis. Implemented methods are: linear sensitivity analysis (SRC, PCC, ...), the screening method of Morris and non-linear global sensitivity analysis (Sobol indices, FAST method). By Gilles Pujol (this package was originally developed at Commissariat a l'Energie Atomique CEA, Service d'Etudes et de Simulation du Comportement des Combustibles CEA/DEN/CAD/DEC/SESC, France).

sigma2tools Test of hypothesis about σ^2. By Fabio Frascati.

simecol An object oriented framework and tools for SIMulation of ECOLogical (and other) dynamic systems. By Thomas Petzoldt.

spBayes Fits Gaussian models with potentially complex hierarchical error structures using Markov chain Monte Carlo (MCMC). By Andrew O. Finley, Sudipto Banerjee, and Bradley P. Carlin.

spatclus Arbitrarily shaped multiple spatial cluster detection for 2D and 3D spatial point patterns (case event data). The methodology of this package is based on an original method that allows the detection of multiple clusters of any shape. A selection order and the distance from its nearest neighbor once pre-selected points have been taken into account are attributed at each point. This distance is weighted by the expected distance under the uniform distribution hypothesis. Potential clusters are located by modeling the multiple structural change of the distances on the selection order. Their presence is tested using the double maximum test and a Monte Carlo procedure. By Christophe Dematteï.

spatialkernel Edge-corrected kernel density estimation and binary kernel regression estimation for multivariate spatial point process data. By Pingping Zheng and Peter Diggle.

spgrass6 Interface between GRASS 6.0 geographical information system and R. By Roger Bivand.

st Implements the "shrinkage t" statistics described in Opgen-Rhein and Strimmer (2006). Also offers a convenient interface to a number of other regularized t-type statistics often used in high-dimensional case-control studies. By Rainer Opgen-Rhein and Korbinian Strimmer.

startupmsg Utilities for start-up messages. By Peter Ruckdeschel.

stepPlr L_2 penalized logistic regression for both continuous and discrete predictors, with the forward stepwise variable selection procedure. By Mee Young Park and Trevor Hastie.

stinepack Interpolation routine using the Stineman algorithm. By Tomas Johannesson and Halldor Bjornsson.

svcR Implements a support vector machine technique for clustering. By Nicolas Turenne.

tensorA Provides convenience functions for advanced linear algebra with tensors and computation with data sets of tensors on a higher level abstraction. Includes Einstein and Riemann summing conventions, dragging, co- and contravariate indices, and parallel computations on sequences of tensors. By K. Gerald van den Boogaart.

titecrm Time-to-event continual reassessment method and calibration tools. Provides functions to run the TITE-CRM in phase I trials and the calibration tools to plan a TITE-CRM design. By Ken Cheung.

triangle Provides the standard distribution functions for the triangle distribution. By Rob Carnell.

trimcluster Trimmed k-means clustering. The package is planned to be expanded to contain further trimmed clustering methods developed at the University of Valladolid. By Christian Hennig.

tsDyn Time series analysis based on dynamical systems theory. By Antonio Fabio Di Narzo.

tutoR Mask common functions so that bad inputs are picked up in advance. Errors are explained prior to or instead of function execution. `eg()` picks out "Examples" first and foremost. In `deskcheck()` the debug flag is set and execution initiated for a function to be tested. By Mark Fielding.

unbalhaar Implements an algorithm for nonparametric function estimation using Unbalanced Haar wavelets. By Piotr Fryzlewicz.

vars Estimation, lag selection, diagnostic testing, forecasting, causality analysis, forecast error variance decomposition and impulse response functions of VAR models and estimation of SVAR models (A-model, B-model, AB-model). By Bernhard Pfaff.

wnominate Estimates Poole and Rosenthal W-NOMINATE scores from roll call votes supplied though a roll call object from package **pscl**. By Keith Poole, Jeffrey Lewis, James Lo, and Royce Carroll.

xlsReadWrite Natively read and write Excel (v97-2003/BIFF8) files. By Hans-Peter Suter.

zipfR Statistical models and utilities for the analysis of word frequency distributions. The utilities include functions for loading, manipulating and visualizing word frequency data and vocabulary growth curves. The package also implements several statistical models for the distribution of word frequencies in a population. (The name of this package derives from the most famous word frequency distribution, Zipf's law.). By Stefan Evert and Marco Baroni.

Other changes

- Packages **data.table** and **pls.pcr** were moved from the main CRAN section to the Archive.

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